The scheme proposed is, doubtless, an improvement on its predecessors. It recognizes eight realms, each (even the Antarctic) subdivided into from few to many provinces. The discussion leading up to these, and to the valuable catalogue (p. 3) of 'biome types', is enormously interesting, though in places what is left unsaid may be tantalizing.

The scheme, itself, seems to illustrate the improbability of our ever arriving at a generally acceptable subdivision of such an infinitely complex series of multidimensional gradients and/or continua as that comprising the distribution and relationships of the floras, faunas, and ecosystems, of the terrestrial† portions of the world. This is not the place to propose still another biogeographic classification, but just as an indication of the fact that each critical user will judge the scheme on the basis of his own experience, I may point out the following: (1) The distinction between the Nearctic and Palaearctic realms seems far less impressive than that between Madagascar and the rest of the 'Africotropical Realm', (2) the 'Oceanian Realm' seems nothing more than an attenuation of the 'Indo–Malayan Realm', and (3) southern Chile, Patagonia, and Fuegia, would seem far more appropriately included in the 'Antarctic Realm' than in the 'Neotropical Realm'—and so on!

What Udvardy's and previous essays on this theme perhaps show more than anything else is that, in spite of the great fascination that 'biogeography' has for a large number of us who are interested in natural history, its present direction illustrates the inadequacy of its concepts and data rather than supports its status as a science. Perhaps the theoretical foundations of biogeography need serious re-examination before we shall get much further towards organization of its vast amount of detailed information.

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† Ought not this limitation to have been indicated in the title?—Ed.

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**Birds of Prey in Europe,** by Maarten Bijleveld. Macmillan, London: xvii + 362 pp., illustr., 24 × 16 × 2 cm, £6.50 (new price), 1975.

The birds of prey are certainly some of the most spectacular wild birds and have fascinated mankind through the ages. At the same time they have been ruthlessly persecuted as pests which attack game and domestic stock, or have been just wantonly killed because they were good targets. Even today, when the role of predators is widely understood as contributing to the health of wild animal populations and indeed of whole ecosystems, this type of persecution continues. Other important factors that have led to reductions in the populations of birds of prey have been the conversion of natural lands to agriculture and changes in stock-raising methods, which together have eliminated breeding and hunting areas and potential food—such as the cadavers of domestic animals.

Great though these menaces have been to the maintenance of healthy populations of birds of prey, the worst threat of all came with the introduction of biocides for crop protection, and the use of new deadly chemicals in industry, which were discharged into the environment. They resulted in the crash of birds of prey populations in Europe and North America from the mid-fifties onwards, so that in 1965 it was possible for Dr Bijleveld's mentor, Professor K. H. Voous, to suggest that he thought an estimate of the survival of even one per cent of the original populations might be on the high side! It was, in fact, the dramatic deaths of birds of prey and some others which alerted the world to the poisons that were being introduced into the environment and how they were getting into food-chains, to which we humans are often linked.

With some remedial measures, such as the banning of the most dangerous persistent pesticides, there have been some local improvements in the birds of prey situation; but, as Dr Bijleveld makes clear, the situation is still widely very grave. Poisoned baits are put out to kill foxes and, inevitably, birds of prey—and other animals—fall victim too. Despite protective legislation, shooting and trapping continue in the belief that birds of prey are a menace, or just 'for fun'.

Dr Bijleveld has provided a masterly survey of the tragic decline of the birds of prey in Europe, making use of literature and a wide range of personal contacts. Starting with a general review, he proceeds to enumerate the human influences which have contributed to the decline, and then gives details, country by country, of the current status of thirty-seven species comprising most of the diurnal native birds of prey of Europe.

Protective legislation began to take shape only in this century, and Dr Bijleveld notes that complete protection is now given in seven countries of Western Europe, and also in East Germany. But he deplores the continued influence of hunters in blocking legislation elsewhere. Despite the relatively few birds of prey that are to be seen in most areas nowadays, gamekeepers still persist in regarding them as a menace to game-bird stocks and consequently trap and shoot them. If some slight excuse could be put forward to defend these people as ignorant and misguided, nothing can excuse the wanton slaughter of birds of prey—and other birds—in many parts of southern Europe, the Mediterranean islands, and north Africa, 'just as a sport'.

Dr Bijleveld writes of the measures that are being taken to conserve birds of prey with the support of organizations such as the World Wildlife Fund, the International Union for Conservation of Nature and Natural Resources, and the International Council for Bird Preservation. Reserves have been established in breeding areas, nests have been guarded, uncontaminated food has been made available at selected places, locally extinct species have been re-introduced, and educational campaigns have been carried out. But he is compelled to end by saying that it is difficult to view the future of European birds of prey with any degree of optimism; rather are further declines to be feared.

At one time it would have been possible to say that, whatever happened in Europe, the situation of the birds of prey looked reasonably secure in large parts of Asia, Africa, and the Americas. Unhappily, with the pressure of the exploding human populations and the need to step up food production, land-use is now changing in these regions too. And, what is worse, many of the deadly chemicals that have been banned in much of Europe and North America are being recklessly used elsewhere—with the inevitable bad effects on birds of prey, and without realization that these poisons are also entering the food-chains which lead to human beings. The loss of birds of prey could have dramatic consequences in countries, such as India, where their roles as scavengers and in controlling rodents that can devastate food crops are clearly of major importance.

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